

Eastern North Slope Dolly Varden spawning and over-wintering assessment feasibility.

Abstract: The feasibility of estimating the variability and validity of aerial surveys of overwintering aggregations of anadromous Dolly Varden in North Slope drainages of the Beaufort Sea was investigated. Five replicate aerial surveys of a 6.5 km index section of the Ivishak River were conducted in late September, and capture methods were evaluated for conducting a concurrent mark-recapture abundance estimate in the same index section. Spawning stock-specific genetic samples were collected from adult spawning condition fish in the Kongakut and Ivishak rivers for genetic analysis to evaluate the feasibility of estimating the stock composition of subsistence harvests from mixed-stock aggregations of anadromous Dolly Varden. The variability of replicate aerial surveys was relatively low, with the coefficient of variation for summed mean counts of less than 12%. Although a mark-recapture abundance estimate was not completed due to logistical problems, capture methods and timing indicated that an estimate could be obtained with low variability. The study also showed that stock-specific genetic samples could be collected for comparison with samples from subsistence harvests.

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